Ecological Assessment

What is Ecological Assessment

Ecological assessment is the process of determining and reporting ecological status, condition, and trends, as well as, the factors that influence that condition. It is the first of two components in the ecosystem approach, the second being ecosystem management opportunities. Focused on ensuring a sustainable economy and sustainable environment, the ecosystem approach attempts to gain a comprehensive understanding of ecosystems, how we use them, what factors effect them, and finally, optimal management and stewardship. A successful ecological assessment process provides relevant information to a variety of stakeholders that empowers them with an understanding of the existing condition of the environment and the abilities to make effective resource management decisions.

White River, Colorado

There is an interrelationship between ecological systems and sustainable economies. An appropriate ecological assessment process employs the best available information and sound science to gain an understanding of the multidimensional aspects of natural systems and anthropogenic stresses on those systems.

There are a couple of key elements for successful assessments.

- First, a necessary holistic style approach requires expertise from a number of disciplines. Therefore partnerships with other agencies and organizations are highly desirable and perhaps critical for success.
- Secondly, no matter how good the analysis and interpretation in the assessment process, without effective communication of relevant information to the stakeholders for the practice of ecosystem management, the value is lost.

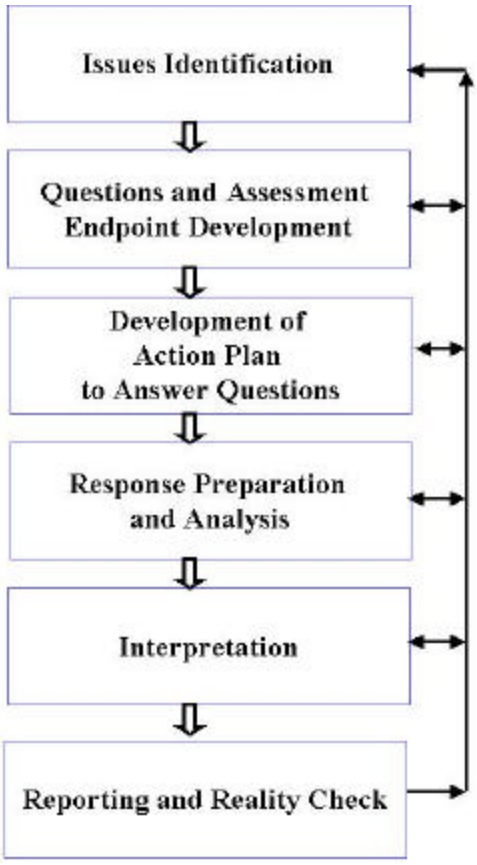
Ecological Indicators

Ideally, the ecological assessment process is iterative. In this way, trends can be monitored and *adaptive* management can be effectively practiced.

In order to accomplish this, a primary assessment tool set is the employment of *ecological indicators*. Designed properly, indicators can be associated with assessment and/or measurement endpoints and can provide status information with respect to that issue(s).

The amount or percent of resource in a given area is an example of an indicator. A direct measure is a measurement endpoint and an indirect measurement is an assessment endpoint.

Monitored over time, the indicator may show loss or gain of the resource. Understanding the ecosystem dynamics, the loss of a particular resource may imply loss of a habitat, etc. Likewise, stressor indicators can show increase or decrease of a particular ecological stress over time (e.g., impact of anthropogenic nitrogen releases over time).



Employing Ecological Assessment in EPA Region 8

EPA Region 8 is promoting an ecological assessment framework to employ as 'the way it does business'. The framework provides a logical approach to identify issues, develop assessment goals and questions to be answered, analyze and interpret information, and to effectively report the findings to relevant stakeholders. Currently, several Region 8 projects incorporate the framework. Future plans for broader use include the upcoming Regional State of the Environment.

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